Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

Title V Draft Permit No. V-99-020
FLORIDA TILE INDUSTRIES, INCORPORATED
LAWRENCEBURG, KY.
May 8, 2000
JAMES A. NEAL & ROBERT L. WILLIAMS, REVIEWERS
Plant I.D. # 102-0060-0008
Application Log # F455

SOURCE DESCRIPTION:

This source manufactures ceramic tiles by combining clay, talc, pyrax, and vansil. The raw materials are stored in six silos that are loaded pneumatically from railcars. Of the six silos, two hold talc, two hold clay, and two hold pyrophyllite. Each generates particulate matter when loaded and the emissions are controlled by separate baghouses with efficiencies above 98%. The materials are conveyed to the body preparation area. Silos system # 1, # 3, and # 6 consist of a silo, gyrator screen, weigh hopper, and screw conveyer. Silo system # 2 consist of silo, 2 gyrator screens, 2 weight hoppers, belt conveyer, and screw conveyer. Silo system # 4 consist of silo, 2 gyrator screens, 2 weigh hoppers, belt conveyer, and screw conveyer. Silo system # 5 consist of a silo, gyrator screen, and weigh hopper. The raw material batching station consist of a six belt conveyer system; fast fire and traditional body mixer systems; fast fire and traditional body rework systems; and fast fire and traditional body pneumatic press feeder systems. Once the raw material are sieved by one of the screens, it is mixed with water in one of the Eirich mixers and any damaged, greenware tiles are added from the two rework systems. Once mixed, the clays are stored in two wet storage units until processed into tiles.

Six ball mills are used to mix the glaze for the tiles. The weighed, raw materials to make the glaze are added to one of the six large ball mills where the ingredients are ground, screened, and mixed with water. Once prepared, the glaze is transferred into a storage container. When the glaze is needed on a coating line, it is agitated and conveyed to the line. A small ball mill is used to mix and test different glazes.

The mixed clays are transferred to tile extrusion through one of the pneumatic press feeders. Five lines extrude the tiles. A typical tile process line consists of tile press(s), tile brush(es), glaze coater and kiln(s). The presses press and cut the raw materials into tiles. Line brushes are used to remove any particles on the tiles before they are coated with glaze.

Cleaned tiles are conveyed to the glaze preparation where one or more glazes may be added to the tile through various coating operations. Glazed tiles are fired in one of five kilns. . The kilns are direct fired and use natural gas. One kiln is used to cure decals placed on some of the tiles, and has VOC emissions due to the fixative used to place the decals on the tiles. Emissions include the products of combustion plus particulate and HF emissions from the body of the tile.

COMMENTS:

Pursuant to permit application, Log # F948, the addition of glaze roller applicators identified as company emissions points 71 and 72, respectively, have been added to Lines 1 and 5. Particulates and condensable particulates will be emitted from each respective kiln preheater. The three disc glaze applicators are considered insignificant activities, and have been added to the insignificant section of the Title V permit.

Type of control and efficiency:
Baghouses with an efficiencies greater than 98% are used to control particulate emissions from the emission points discussed above.

Emission factors and their source:
Particulate emissions from body and glaze preparation including storing, conveying, coating are based on emission factors in AP-42. Particulate and HF emissions are based emission factors determined from stack test performed in January 1999. An ISCST3 model was run to determine the maximum impact concentration of HF, this modeling indicates compliance with the HF ambient air quality standard by venting Kilns # 1, 2, and 5 to their respective existing 38-ft stack, and Kilns # 3 and 4 to an existing 140-ft stack.

Applicable regulations:
Regulations 401 KAR 59:010, New process operations;
401 KAR 53:010, Ambient air quality standards;
401 KAR 63:020, Potential hazardous matter or toxic substances; and
401 KAR 61:020, Existing process operations

112(g) Applicability:
The potential emissions of the hazardous air pollutant, hydrogen fluoride (HF), are 44.92 tons per year. However, the source will not be subject to a case-by-case MACT determination since there are no emission increases due to new construction or reconstruction.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.